Attorney Docket No.: 5683.210-US PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Henriksen et al.	Confirmation No: 5300
Serial No.: 10/618,477	Group Art Unit: 1651
Filed: July 11, 2003	Examiner: D. Naff

For: Solid Phytase Compositions

REQUEST TO REOPEN PROSECUTION UNDER 37 C.F.R. 41.50(b)(1)

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Commissioner for Patents
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Sir:

Applicants appealed the rejection of claims 34-38 and 40-52 under 35 U.S.C. 103(a) as being unpatentable over De Lima *et al.* (U.S. Patent No. 6,136,772) in view of Linton *et al.* (U.S. Patent No. 4,859,485) and Akhtar (U.S. Patent No. 5,750,005). In arguing against the rejection, Applicants relied on a showing of surprising and unexpected results contained in the specification, in particular the working examples.

In its decision mailed July 8, 2008 ("Decision"), the Board of Patent Appeals and Interferences ("Board") held that "The Examiner erred in not considering Appellants' evidence of unexpected results." Page 7, lines 12-13 of the Decision. The Board also held that "an 'advantage', which is the outcome of an invention suggested by the prior art, can be a proper basis for patentablity – as long as the advantage is not possessed by the closest prior art and leads to a result in comparison to this prior art that would not have been expected by persons of ordinary skill in the art." Page 8, line 25 – page 9, line 1 of the Decision.

Nevertheless, the Board affirmed the rejection because Applicants "did not explain, and it is not evident from the record, whether the comparison that serves as the basis for the 'unexpected and surprising' results was performed with the closest prior art." Page 9, lines 25-28 of the Decision. The Board also designated their rationale as a new ground of rejection under 37 CFR. 41.50(b) to provide Applicants an opportunity to respond.

Applicants therefore submit this Request to Reopen Prosecution Under 37 C.F.R. 41.50(b)(1) to respond to the Board's new ground of rejection.

As discussed in Applicants' Appeal, De Lima et al., Harz et al. and Lassen et al. disclose enzymatic animal feed compositions comprising a phytase and Linton et al. and Akhtar disclose non-enzymatic compositions comprising corn steep liquor.

As the Office concedes, none of the cited references disclose a feed composition comprising both a phytase and corn steep liquor. Moreover, none of the cited references teaches or suggests that corn steep liquor would stabilize a phytase contained in an animal feed composition, as demonstrated in the present application.

For example, in Example 4 at page 16, line 18 – page 18, line 9 of the specification, Applicants show that for a control premix (i.e., an animal feed premix comprising a *Peniophora lycii* phytase without corn steep liquor), the residual phytase activity after 13 weeks storage at 30°C was 61% and 64%. However, after adding corn steep liquor with and without wheat starch, the residual phytase activity increased to 81-90%.

Example 5, at page 18, line 10 – page 20, line 6 of the specification, compares the stability of a *Peniophora lycii* phytase in feed for a control granulate (*i.e.*, without corn steep liquor) and the same granulate with corn steep liquor and with both corn steep liquor and wheat starch. After 13 weeks storage at 30°C, the residual phytase activity of the control feed was 53% and 55%, whereas the residual phytase activity of the feed with granulates of the present invention was 73%-91%.

Example 6, at page 20, line 7 – page 21, line 8, also describes an experiment comparing the stability of a phytase for a control granulate and granulates of the present invention (with corn steep liquor and one or more of the following: wheat starch, lactose and trehalose). After 4 weeks at 40°C and a relative humidity of 60%, the phytase in the controls had a storage stability of 43% and 47% and the phytase in the granulates of the present invention had a storage stability of 47-63%.

The specification also shows in Example 7, at page 21, lines 7-18, that the residual activity of a phytase described in EP 897010 in a granulate comprising corn steep liquor, wheat starch and lactose after 8 weeks and 17 weeks storage at 30°C, was 97% and 95%, respectively, and after 4 weeks storage at 40°C and a relative humidity of 60% was 48%. In contrast, the residual activity of the phytase in a control granulate after 8 weeks and 17 weeks storage at 30°C was 85% and 85%, respectively, and after 4 weeks storage at 40°C was 40%.

Thus, the Examples compare identical phytase-containing formulations with and without corn steep liquor. The formulations containing phytase without corn steep liquor represent the closest prior art. The Examples show that the stability of the phytase in a formulation containing

corn steep liquor is significantly greater than the stability of the phytase contained in the formulation free of corn steep liquor.

As stated during prosecution and appeal, prior to Applicant's invention, the skilled artisan did not know what effect, if any, corn steep liquor would have on a phytase. Thus, Applicants' showing that the addition of corn steep liquor to a phytase-containing animal feed improves the stability of the phytase is not predicted by the prior art. Thus, the showing overcomes any assertion of obviousness based on the cited art.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 103. Applicants respectfully request reconsideration and withdrawal of the rejection.

In view of the above, it is respectfully submitted that all claims are in condition for allowance. Early action to that end is respectfully requested. The Examiner is hereby invited to contact the undersigned by telephone if there are any questions concerning this amendment or application.

Respectfully submitted,

Date: September 8, 2008

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